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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,309	03/24/2006	Guofu Zhou	US030339	1974

24737 7590 11/12/2008

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER	
ZHOU, HONG	
ART UNIT	**PAPER NUMBER**
2629	
MAIL DATE	**DELIVERY MODE**
11/12/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/573,309	ZHOU ET AL.	
	Examiner	Art Unit	
	HONG ZHOU	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 March 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/24/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being obvious over Zehner et al (US 2003/0137521, hereinafter Zehner) in view of Amundson et al (US 2005/0062714, hereinafter Amundson).

Regarding claim 1, Zehner discloses a method ([0023]; also see Fig. 8) for updating an image on a bi-stable display (bistable electro-optic display 26, Fig. 1), the method comprising: applying a first portion (Fig. 9, e.g., the pulse applied during the erase period 308, also see [0169]) of a reset pulse to at least a portion ([0150], lines 1-3 (304)) of the bi-stable display; and applying a second portion (Fig. 9, the pulses applied during the reset period 304', also see [0169]) of the reset pulse to the at least a portion of the bi-stable display.

It is noted that Zehner fails to disclose applying at least a first shaking pulse to the at least a portion of the bi-stable display before the first portion of the reset pulse and applying at least a second shaking pulse to the at least a portion of the bi-stable display following the first portion of the reset pulse. However, Amundson discloses a method of driving a bistable electro-optic display similar to Zehner ([0034]) wherein the method including appending one or more shaking pulses to the end of a waveform used for a transition for reinforce a final optical state ([0068].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the method of Zehner with the features of shaking pulses as taught by Amundson to append a series of shaking pulse to the end of all optical transitions or just append a series of shaking pulses to the end of some optical transitions so as to make the desired final optical transition more reliable ([0068]).

Regarding claim 2, Zehner as modified by Amundson further discloses the method of claim 1, wherein: the second portion of the reset pulse has an over-reset duration (the duration of the pulses applied during the reset period 304' is longer than the pulse applied during the erase period 308, Fig. 9).

Regarding claim 3, Zehner as modified by Amundson further discloses the method of claim 1, wherein: the first portion of the reset pulse has a standard reset duration (the pulse applied during the erase period 308 has a duration to move particles from gray level 1 to black or gray level 0, Fig. 9).

Regarding claim 4, Zehner as modified by Amundson further discloses the method of claim 3, wherein: the standard reset duration (the duration of the pulse applied during the erase period 308) is proportional to a distance (from the gray level 1 to gray level 0) that particles in the bi-stable display must move to transition from their starting color state, prior to applying the at least a first shaking pulse, to an extreme black or white color state.

Regarding claim 5, Zehner as modified by Amundson discloses the method of claim 1, wherein: an ending point of the first portion of the reset pulse is temporally adjacent to a starting point of the at least a second shaking pulse (Amundson discloses appending one or more shaking

pulses to the end of a waveform used for a transition. Therefore, a series of shaking pulses is appended to the end of the pulse applied during the erase period 308).

Regarding claim 6, Zehner as modified by Amundson further discloses the method of claim 1, further comprising: applying a drive pulse (Fig. 9, the addressing pulse applied during the writing period 306') to the at least a portion of the bi-stable display following the second portion of the reset pulse (the pulses applied during the reset period 304') to drive the at least a portion of the bi-stable display to a desired color or greyscale level (e.g., drive the pixel from the grayscale 0 to gray scale 2).

Regarding claim 7, Zehner as modified by Amundson further discloses the method of claim 1, further comprising: applying at least a third shaking pulse to the at least a portion of the bi-stable display following the second portion of the reset pulse (Amundson discloses appending one or more shaking pulses to the end of a waveform applied for an optical transition. Therefore, a series of shaking pulse is appended at the end of the reset pulses); wherein the at least a third shaking pulse has a shorter pulse width (Amundson further discloses that the series of shaking pulses can be taking place at a higher rate, [0068]) compared to a pulse width of the at least a first shaking pulse and the at least a second shaking pulse.

Regarding claim 8, zehner discloses a program storage device (storage means, [0103]) tangibly embodying a program of instructions ([0148]; also see Fig. 8) executable by a machine (display controller 16B, Fig. 2) to perform a method for updating an image on a bi-stable display (Fig. 8), the method comprising: applying a first portion (Fig. 9, e.g., the pulse applied during the erase period 308, also see [0169]) of a reset pulse to at least a portion ([0150], lines 1-3) of the bi-stable display; and applying a second portion (Fig. 9, the pulses applied during the reset

period 304', also see [0169]) of the reset pulse to the at least a portion of the bi-stable display. It is noted that Zehner fails to disclose applying at least a first shaking pulse to the at least a portion of the bi-stable display before the first portion of the reset pulse and applying at least a second shaking pulse to the at least a portion of the bi-stable display following the first portion of the reset pulse. However, Amundson discloses a method of driving a bistable electro-optic display similar to Zehner ([0034]) wherein the method including appending one or more shaking pulses to the end of a waveform used for a transition for reinforce a final optical state ([0068]. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the method of Zehner with the features of shaking pulses as taught by Amundson to append a series of shaking pulses to the end of all optical transitions or just append a series of shaking pulses to the end of some optical transitions so as to make the desired final optical transition more reliable.

Regarding claim 9, Zehner discloses an electronic reading device (an electronic book reader, [0199], lines 13-14), comprising: a bi-stable display (bi-stable electro-optic display 26, Fig. 1); and a control (display controller 16b, Fig. 2) for updating an image on the bi-stable display by applying a first portion (Fig. 9, e.g., the pulse applied during the erase period 308, also see [0169]) of a reset pulse to at least a portion ([0150], lines 1-3) of the bi-stable display; and applying a second portion (Fig. 9, the pulses applied during the reset period 304', also see [0169]) of the reset pulse to the at least a portion of the bi-stable display. It is noted that Zehner fails to disclose applying at least a first shaking pulse to the at least a portion of the bi-stable display before the first portion of the reset pulse and applying at least a second shaking pulse to the at least a portion of the bi-stable display following the first portion of the reset pulse.

However, Amundson discloses a method of driving a bistable electro-optic display similar to Zehner ([0034]) wherein the method including appending one or more shaking pulses to the end of a waveform used for a transition for reinforce a final optical state ([0068]. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the method of Zehner with the features of shaking pulses as taught by Amundson to append a series of shaking pulses to the end of all optical transitions or just append a series of shaking pulsess to the end of some optical transitions so as to make the desired final optical transition more reliable.

Regarding claim 10, Zehner as modified by Amundson further discloses the electronic reading device of claim 9, wherein: the second portion of the reset pulse has an over-reset duration (the duration of the pulses applied during the reset period 304' is longer than the pulse applied during the erase period 308, Fig. 9).

Regarding claim 11, Zehner as modified by Amundson further discloses the electronic reading device of claim 9, wherein: the first portion of the reset pulse has a standard reset duration (the pulse applied during the erase period 308 has a duration to move particles from gray level 1 to black or gray level 0, Fig. 9).

Regarding claim 12, Zehner as modified by Amundson further discloses the electronic reading device of claim 11, wherein: the standard reset duration (the duration of the pulse applied during the erase period 308) is proportional to a distance (from the gray level 1 to gray level 0) that particles in the bi-stable display must move to transition from their starting color state, prior to applying the first shaking pulse, to an extreme black or white color state.

Regarding claim 13, Zehner as modified by Amundson further discloses the electronic reading device of claim 9, wherein: an ending point of the first portion of the reset pulse is temporally adjacent to a starting point of the at least a second shaking pulse (Amundson discloses appending one or more shaking pulses to the end of a waveform used for a transition. Therefore, a series of shaking pulses is appended to the end of the pulse applied during the erase period 308).

Regarding claim 14, Zehner as modified by Amundson further discloses the electronic reading device of claim 9, wherein: the control applies a drive pulse (the driving pulse applied during the write period 306') to the at least a portion of the bi-stable display following the second portion of the reset pulse (the pulses applied during the reset period 304') to drive the at least a portion of the bi-stable display to a desired color or greyscale level (drive the pixel from the grayscale 0 to gray scale 2).

Regarding claim 15, Zehner as modified by Amundson further discloses the electronic reading device of claim 9, wherein: the control applies at least a third shaking pulse to the at least a portion of the bi-stable display following the second portion of the reset pulse (Amundson discloses appending one or more shaking pulses to the end of a waveform applied for an optical transition. Therefore, a series of shaking pulse is appended at the end of the reset pulses); and the at least a third shaking pulse has a shorter pulse width compared to a pulse width of the at least a first shaking pulse and the at least a second shaking pulse (Amundson further discloses that the series of shaking pulses can be taking place at a higher rate, [0068]).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The US 6,252,571, 2004/0145548, 2005/0270261, 2002/0005832, 2002/0021483, 6,054,973, and 6,753,844 disclose a bi-stable display with reset pulses and address pulse.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HONG ZHOU whose telephone number is (571)270-5372. The examiner can normally be reached on Monday through Friday 8:30 A.M. - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on (571)272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/H. Z./

Examiner, Art Unit 2629

/Amare Mengistu/

Supervisory Patent Examiner, Art Unit 2629